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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
097539,533	03/31/00	MORITA	K 0673-119P/GP

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QM02/0322

EXAMINER

TRIEU, T

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 03/22/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/539,533	Applicant(s) MORITA, KAZUO	
	Examiner Theresa Trieu	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 16-20 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-15 is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7 is/are rejected.
- 7) ☒ Claim(s) 3-6 is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2000 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- | | |
|---|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 20) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is responsive to the Election/Restriction filed on March 1, 2001.

Applicant election of the Group I claims 1-15 being readable thereon is also acknowledge. Claims 16-20 are withdrawn from consideration. The above election was made without traverse.

Drawings

Figures 10 and 11 should be designated by a legend such as *--Prior Art--* because only that which is old is illustrated. See MPEP § 608.02(g).

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Morita et al. (Patent Number 5,370,514) or Barton (Patent Number GB 2,241,559) in view of Wedler (Patent Number 3,962,933).

Re claim 1, Morita et al. or Barton disclose a rotary pump comprising:

a pair of rotors (1A, 1B in Morita et al., 3, 4 in Barton) having pumping segments mutually engaged with each other for synchronous revolution in mutually opposite direction within a pump casing (6 in Morita et al., 2 in Barton);

a pair of hollowing rotor drive shafts (12 in Morita et al., 7, 8 in Barton) supported in gearboxes (13 in Morita et al., 62 in Barton) adjacent said pump casing (6 in Morita et al., 2 in Barton) for integrally rotate with a pair of said rotors; and

a pair of rotor fastening bolts (15 in Morita et al., 10, 16 in Barton) inserted into hollow portions of respective hollow rotor drive shafts (12 in Morita et al., 7, 8 in Barton) to fix

said pair of rotors and said pair of hollow rotor drive shafts on the outer end surfaces of said rotor drive shaft under tension,

respective of said hollow rotor drive shafts (12 in Morita et al., 7, 8 in Barton) being synchronously rotated in mutually opposite direction with meshing with synchronous driving gears (22, 23 in Morita et al., 25, 26 in Barton) provided in respective gearboxes,

among both of said hollow rotor drive shafts (12 in Morita et al., 7, 8 in Barton), one of said hollow rotor drive shaft extends outwardly from said gearbox to form an extended drive shaft portion (see Figure 1 in Morita et al., see Figure 1 in Barton).

Re claim 2, Morita et al. or Barton disclose the pump casing (6 in Morita et al., 2 in Barton) comprises a main casing having a pumping chamber (7 in Morita et al., 61 in Barton) for receiving the pair of rotors and a casing cover flush with the end surfaces of the pair of rotors (1A, 1B in Morita et al., 3, 4 in Barton).

Re claim 7, Morita et al. or Barton disclose a bolt head (15a in Morita et al., 17, 18 in Barton) to be abutted onto the outer end surface of the hollowing rotor drive shaft (12 in Morita et al., 7, 8 in Barton) is provided on one end portion of the rotor fastening bolt (15 in Morita et al., 10, 16 in Barton) inserted into the hollow rotor drive shaft (12 in Morita et al., 7, 8 in Barton), and a threaded portion (15 in Morita et al., 51 in Barton) to be threadingly engaged with a threaded hole provided in the rotor is provided on the other end.

Morita et al. or Baton disclose the invention as recited above; however, fail to disclose the transmission coupling for operating the rotor fastening bolt being coupled with the extended drive shaft portion for integral portion.

Wedler teaches that it is conventional in the art to utilize, the transmission coupling (see Abstract) having an operation space for operating said rotor fastening bolt being coupled with said extended drive shaft (21) portion for integral rotation (see Figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the transmission coupling for operating the drive shaft as taught by Wedler in the Morita et al. device or Baton's device, to facilitate the ease of assembly and disassembly of the rotary pump structure.

Claim Objections

Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Allowable

Claims 8-15 are allowed.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of eight patents.

Larson (Patent Number 2,391,577) discloses a rotary pump shaft seal.

Collura (Patent Number 2,633,807) discloses a sanitary pump.

Bursak (Patent Number 3,126,834) discloses a rotary pump.

Thorson (Patent Number 3,182,900) discloses a twin rotor compressor with mating external teeth.

Preston et al. (Patent Number 4,595,349) disclose a supercharger rotor, shaft, and gear arrangement.

Wade (Patent Number 5,338,258) discloses a drive transmission couplings.

Buchi et al. (Publication Number GB 792,157) disclose an improvements in or relating to turbine compressor rotor assemblies.

Buchi et al. (Publication Number GB 833,281) disclose an improvements in or relating to turbo compressor rotor assemblies.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa Trieu whose telephone number is (703) 308-6434. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas E. Denion, can be reach on (703) 308-2623. The fax phone number for this group is (703) 308-7765.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

TT

March 16, 2001

Theresa Trieu

Patent Examiner

Art Unit: 3748



THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700